

REMARKS

A petition and fee for a two-month extension to reply to the pending Office Action is being submitted concurrently herewith.

Terminal disclaimers are being filed concurrently herewith to obviate the obviousness-type double patenting rejections.

The Examiner has objected to the Specification as not providing antecedent basis for the process of claims 32, 33, 35, 36, 39-42, 44, 45 and 47-51. The Applicants respectfully traverse this objection. In particular, the Applicants would like to point out the following support in the application as originally filed.

The instant application was filed with claim 11 which canceled by a preliminary amendment filed with the application:

11. A process for producing the phosphor as claimed in one of claims 1 to 6, characterized by the following process steps:

- a. Comminution of the oxides and addition of a flux;
- b. first annealing in forming gas;
- c. milling and screening;
- d. second annealing.

Claim 1 as originally filed in the application is reproduced below:

1. A phosphor for excitation by a blue-emitting radiation source, the emission from which lies in the short-wave optical spectral region from 420 to 490 nm, having a garnet structure $A_3B_5O_{12}$, the phosphor being activated with Ce as represented by $A_3B_5O_{12}:Ce$, the second component B representing at least one of the elements Al and Ga, characterized in that the first component A contains terbium.

Thus, the claimed process as originally filed applied to a composition at least as broad as that claimed in the present claims, included a generic flux, and encompassed firing in a forming gas to produce the phosphor.

The Specification has been amended to substantially incorporate the text of originally filed claim 11. No new matter has been added since the original claims constitute part of the disclosure. MPEP 608. The term "annealing" has been changed to "firing" in accordance with the Examiner's prior objection to "annealing." (For reference, see Applicants' submission of July 17, 2003 in the parent case (S/N 09/787,208).)

With reference to the examples, the Examiner acknowledges that both single-step and two-step firing processes are disclosed. It should be therefore be clear to one skilled in the art that the process for making the phosphor may be conducted in either a single firing step or two firing steps. There is nothing in the application which would indicate that the single step (or two-step) process is only applicable to a specific range of compositions within the broader range of disclosed compositions. In addition, the examples disclose specific firing temperatures of 1450°C, 1500°C and 1550°C. The highest temperature of 1550°C is used in both the single-step and two-step processes. Thus, the combined Examples clearly provide support for a firing range of 1450°C to 1550°C. The Applications respectfully assert that this is sufficient to satisfy the written description requirement under 35 U.S.C §112 and is therefore also sufficient antecedent basis for the claimed limitation. (*See*, MPEP 2163.05(III) and MPEP 2163 ("While there is no *in haec verba* requirement, newly added claim limitations must be supported in the specification through express, implicit, or inherent disclosure."))

With regard to the excess of oxide B, the Applicants respectfully direct the Examiner to the attached table. The stoichiometric excess of oxide B is calculable from the quantities of the oxide components added to the respective mixtures in the examples. In particular, eight of the nine examples in the Applicants' Specification are shown in the table to have been made with a stoichiometric excess of aluminum oxide in the oxide mixture. In Examples 1-8, the normalized molar ratio of aluminum calculated from the oxide mixture is greater than the stoichiometric ratio of aluminum from the phosphor formulas.¹ Thus, the Applicants respectfully assert that proper antecedent basis/written description exists in the Specification for an excess of oxide B.

¹ For the majority of examples, the stoichiometric ratio from the phosphor formula for aluminum is 5. In Examples 7 and 8, the ratio is 4 and 3, respectively.

The rejection of claims 32-52 under 35 USC 112, first paragraph, as not being enabled is respectfully traversed. The Applicants appreciate the Examiner's suggestions with respect to incorporation of the specific fluxes and temperature ranges. However, the Applicants respectfully assert that the Examiner has not shown why the process as claimed is not enabling to one of skill in the phosphor arts. The Applicants have provided nine working examples in the Specification including three specific firing temperatures covering the range from 1450°C to 1550°C and two examples of flux materials. As stated previously, the Specification further shows that the process may be conducted in a single- or two-step firing.

The determination of the propriety of a rejection based upon the scope of a claim relative to the scope of the enablement involves two stages of inquiry. The first is to determine how broad the claim is with respect to the disclosure. The entire claim must be considered. The second inquiry is to determine if one skilled in the art is enabled to make and use the entire scope of the claimed invention ***without undue experimentation***. MPEP §2164.08 (emphasis added).

It is clear from the above that the breadth of the claims is not by itself sufficient to support a rejection of nonenablement. The Applicants respectfully assert that the Examiner has thus far only provided reasoning for the first inquiry. With regard to the second part, the MPEP provides in relevant part:

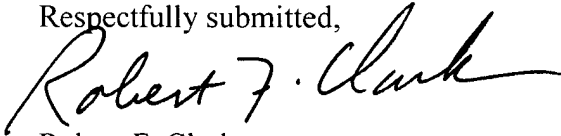
According to *In re Bowen*, 492 F.2d 859, 862-63, 181 USPQ 48, 51 (CCPA 1974), the minimal requirement is for the examiner to give reasons for the uncertainty of the enablement. This standard is applicable even when there is no evidence in the record of operability without undue experimentation beyond the disclosed embodiments. See also *In re Brana*, 51 F.3d 1560, 1566, 34 USPQ2d 1436, 1441 (Fed. Cir. 1995) (citing *In re Bundy*, 642 F.2d 430, 433, 209 USPQ 48, 51 (CCPA 1981)) (discussed in MPEP § 2164.07 regarding the relationship of the enablement requirement to the utility requirement of 35 U.S.C. 101). MPEP §2164.04.

Thus, for a *prima facie* case, reasons must be provided as to why one skilled in the art would not be able to practice the claimed invention without undue experimentation. The Applicants respectfully assert that the Examiner has not yet provided this reasoning and therefore a *prima facie case* has not been established.

Therefore, in view of the specific examples provided in the Specification, the Applicants respectfully assert that the claimed invention is enabled.

In view of the foregoing amendment, it is believed that the Examiner's rejections have been overcome and that the application is in condition for allowance. Such action is earnestly solicited.

Respectfully submitted,

A handwritten signature in black ink, reading "Robert F. Clark". The signature is written in a cursive, flowing style with a long horizontal stroke at the end.

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